

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report Nos. 50-445/92-26  
50-446/92-26

Operating License No. NPF-87

Construction Permit No. CPPR-127

Licensee: TU Electric  
400 North Olive Street, L.B. 81  
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES), Units 1 and 2

Inspection At: CPSES, Glen Rose, Texas

Inspection Conducted: July 6-9 and 20-23, 1992

Inspectors: L. D. Gilbert, Reactor Inspector, Materials and Quality Programs  
Section, Division of Reactor Safety

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Programs Section, Division of Reactor Safety

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Approved:

*I. Barnes*  
I. Barnes, Chief, Materials and Quality Programs  
Section, Division of Reactor Safety

*8-13-92*  
Date

Inspection Summary

Inspection Conducted July 6-9 and 20-23, 1992 (Report 50-445/92-26)

Areas Inspected: No inspection of Unit 1 was performed.

Inspection Conducted July 6-9, and 20-23, 1992 (Report 50-446/92-26)

Areas Inspected: Routine, announced inspection to compare the as-built plant and flow diagrams to the system description and figures in the Final Safety Analysis Report (FSAR). In addition, a followup review of a previously identified inspection finding was conducted.

Results: Within the areas inspected, one noncited violation was identified (paragraph 3.2) pertaining to failure to incorporate an applicable design change to the Unit 2 flow diagram which changed the normal valve position of four nitrogen supply valves to the accumulators. Otherwise, plant configuration controls appeared to be functioning well in that the as-built plant as depicted in the FSAR was found to be functionally correct.

Summary of Inspection Findings

- o A noncited Violation was identified (paragraph 3.2).
- o Violation 466/91201-03 was reviewed (paragraph 2) and remains open for further review of material and cleanliness control.

DETAILS

1. PERSONS CONTACTED

TU ELECTRIC

- \*J. Ayres, Operations Quality Assurance (QA) Manager
- \*R. Baker, Licensing Compliance Manager
- \*M. Blevins, Director of Nuclear Overview
- \*H. Bruner, Vice President
- \*J. Conly, Licensing Engineer
- J. Greene, Licensing Engineer
- \*E. Gully, Unit 2 Engineering/Licensing Manager
- \*T. Heatherly, Licensing Engineer
- J. Jackson, Senior Engineer
- \*S. Palmer, Stipulations Manager
- \*D. Pendleton, Regulator Services Manager
- \*R. Spence, Unit 2 Quality Control (QC) Manager
- \*L. Walker, Licensing Engineer
- D. Woodlan, Docket Licensing Manager

CITIZENS ASSOCIATION FOR SOUND ENERGY (CASE)

- \*O. Thero, Consultant

NRC

- \*D. Graves, Senior Resident Inspector

The inspectors also interviewed other employees during this inspection.

\*Indicates those persons who attended the exit meeting conducted on July 23, 1992.

2. FOLLOWUP OF LICENSEE ACTION ON PREVIOUSLY IDENTIFIED INSPECTION FINDINGS (92702)

(OPEN) Violation (446/91201-03): This violation was comprised of three examples of failure to follow established procedures:

- (1) Material was stored under uncontrolled conditions; housekeeping and cleanliness standards were not maintained; and a safety-related storage area contained uncovered and unprotected piping, instrument lines, unlabeled equipment, trash, and food;
- (2) A welder was observed using an amperage that exceeded the maximum allowed by the welding procedure specification (WPS) (i.e., 92 amps rather than the required 80 amps); and

- (3) A welder was observed welding without having established the required minimum preheat temperature.

The licensee initiated TUE forms to document and evaluate the conditions. With respect to the material storage and housekeeping issues, construction management had already identified numerous unsatisfactory conditions and had initiated actions to revise procedures, establish a cleanliness coordinator, assign housekeeping responsibilities to superintendents within their assigned areas, and conduct periodic reviews of specified areas using the newly developed "Housekeeping Checklist." In addition, Lesson Plan (LP) 9039 was developed to specifically address the requirements established in the revised procedures and was presented as required training to all superintendents. All of these actions were completed just prior to the NRC inspection; however, full implementation had not been achieved. Subsequent to the NRC inspection that identified this violation, QA performed surveillances in the areas of housekeeping and protection of permanent plant equipment. These surveillances were performed on January 22-24, 1992, and documented in Reports QAS-92-009 and QAS-92-005, respectively. The results of the surveillances were documented as being satisfactory. This violation remains open for further NRC review of licensee controls and implementation relative to Example (1).

TUE forms were initiated for the two welding examples. The condition in which the maximum allowed amperage specified in WPS 18013 had been exceeded, was documented in TUE Form 91-2877, which was subsequently dispositioned as "use-as-is." In this case (welding of a stainless steel stanchion to a piece of carbon steel plate), the excessive amperage was not a technical concern in that neither impact testing of the carbon steel nor testing for sensitization of stainless steel was required by the design specification. The WPS was revised (Revision 9) to allow for an expanded amperage range (i.e., 40-110 amps). TUE Form 91-2862 was initiated to document a condition in which the minimum required preheat temperature of 200 degrees Fahrenheit, as specified in WPS 11032, had not been maintained. This condition had been identified during a QC surveillance activity in which the temperature had been measured at 174 degrees Fahrenheit. The disposition of the TUE form was to issue a construction work document with instructions to remove and replace the weld. As part of the preventive measures regarding these two instances, each welder received specific remedial training. All welders received additional training during February and March 1992, in the use of weld technique sheets and the need for adhering to the established parameters. These actions appeared to be prudent and no further NRC review for Examples (2) and (3) are planned.

### 3. COMPARISON OF AS-BUILT PLANT TO FSAR DESCRIPTION (37301)

The objectives of this inspection were to ascertain whether the as-built plant for Unit 2 conforms to the description in the FSA regarding the mechanical and fluid systems.

The Unit 2 systems selected for this inspection included the reactivity control systems and the emergency core cooling systems.

### 3.1 Reactivity Control Systems

The inspectors compared the latest copy of the flow diagrams and corresponding construction drawings listed in the Attachment and the open design changes specified in the Affected Document Update Report with the current FSAR system description for selected flow paths of the boration systems of the reactivity control systems. The flow paths selected for the boration systems were: (1) the flow path from the boric acid storage tank using a boric acid transfer pump and a charging pump to the reactor coolant system, (2) the flow path from the boric acid storage tank using a gravity feed connection and a charging pump to the reactor coolant system, and (3) the flow path from the refueling water storage tank using a centrifugal charging pump to the reactor coolant system. The boration systems were described in FSAR Section 9.3 and Technical Specification 3/4.1.2 of the Combined Technical Specifications for Comanche Peak Units 1 and 2, Proof and Review Version. Other documents and procedures reviewed during the inspection are also included in the Attachment.

The following discrepancies were identified between the FSAR for Units 1 and 2 and the as-built drawings during the above review.

FSAR Figure 9.3-10 Sheet 4 does not show the drain valve and associated 3/4 inch drain line for the Unit 2 drain valve, 2CS-8222, shown on Drawing M2-0255.

FSAR Figure 9.3-10 Sheet 3 does not show the drain valve and associated 3/4 inch drain line for the Unit 2 drain valve, 2CS-8224, shown on Drawing M2-0254.

The licensee informed the inspectors that the above drains were not necessary for Unit 1. It was annotated on the FSAR system figures for Units 1 and 2 that the figures were based on the Unit 1 flow diagrams. The inspectors verified that the drains were not shown on the Unit 1 flow diagrams. Therefore, although the drains do not show on the FSAR system figures, the figures are considered functionally correct for both units.

### 3.2 Emergency Core Cooling Systems

The inspectors compared the latest copy of the flow diagrams and corresponding construction drawings listed in the Attachment and the open design changes specified in the Affected Document Update Report with the current FSAR system description for selected flow paths of the Emergency Core Cooling Systems (ECCSs). The flow paths selected for the ECCSs were: (1) the flow path from the accumulator to the reactor coolant system; and (2) the flow path from the refueling water storage tank using a centrifugal charging pump, a safety injection pump, a residual heat removal heat exchanger, and a residual heat removal pump to the reactor coolant system. The ECCSs were described in FSAR Section 6.3 and Technical Specifications 3/4.5.1 and 3/4.5.2 of the Combined Technical Specifications for Comanche Peak Units 1 and 2, Proof and Review Version. Other documents and procedures reviewed during the inspection are also included in the Attachment.

While comparing FSAR figures and Unit 2 flow diagrams, the inspectors noted that FSAR Figure 6.3-1 Sheet 5 showed a normal open position for four nitrogen supply valves to the accumulators, while the Unit 2 flow diagram, M2-0263 Sheet B, Revision CP-1, showed these valves to be normally closed. The Unit 1 valves were identified as 1-8880, 1-8893, ISI-0132, and ISI-0154 while the corresponding valves in Unit 2 were 2-8880, 2-8893, 2SI-8965A, and 2SI-8965B, respectively. Valves 1-8880 and 2-8880 were Safety Class 2 while the others were Safety Class 5 (i.e., nonsafety-related).

The licensee determined that Design Change Notice (DCN) 1503, which had been issued to change the normal position of these valves for Unit 1 from closed to open, had not been incorporated into the Unit 2 flow diagram. TUE Form 92-5747 was generated on July 7, 1992, to document the problem. Design Change Authorization (DCA) 102107 was issued on July 9, 1992, to revise the Unit 2 flow diagram M2-0263 to agree with the Unit 1 design.

The inspectors ascertained from discussions with the licensee that the DCN issued against the Unit 1 flow diagram was not incorporated into the Unit 2 flow diagram after restart of Unit 2 because the DCN was issued against the Unit 1 flow diagram after the open design change log and Affected Document Update Report had been obtained for incorporating the Unit 1 flow diagram design changes into the Unit 2 flow diagram. The Unit 2 design confirmation performed in accordance with Procedure 2SW-300, "SWEC Design Confirmation," was inadequate in this area, in that a review was not required or performed after issuing the Unit 2 updated drawings to assure that last minute design changes issued against the Unit 1 drawing had been incorporated into the Unit 2 updated drawings. The licensee performed a review of all Unit 1 DCNs, not pertaining to design modifications, that were issued against flow diagrams after the restart of Unit 2 engineering activities. This review identified no other instances where Unit 1 DCNs had not been incorporated into Unit 2. The licensee concluded as a result of this review that the observed deficiency was an isolated case.

The failure to incorporate DCN-1503 is an apparent violation of Criterion III of Appendix B to 10 CFR Part 50. The violation is of minor safety significance and has been established to be isolated in nature. The violation is not being cited because the criteria specified in Section VII.B.1 of the Enforcement Policy were satisfied.

The inspectors also noted in comparison of FSAR information to the flow diagram that an extra Class 5, nonsafety-related valve was found on the flow diagram. Design Change Authorization 24146 added Valve 2SI-0190 to Line 3/4-SI-2-346-602-5. It appears that the valve was added because the isolation Valve 2SI-146 was not located close to the valve which required preventive maintenance. The flow diagram was changed as a result, but the FSAR was not updated. The licensee issued a Licensing Document Change Request (LDCR) SA-92-731 to effect the required change.

The inspectors noted that a design change, DCA-98762, had been implemented for Unit 2 only which eliminated the redundant hand operated isolation valve for the drain line between the accumulator injection line check valves. This change was being processed with a LDCR, SA-92-00596. The justification for the change was that two hand valves were excessive in that isolation with redundancy was maintained with the inboard check valve and one hand valve.

The preoperational test, 2-CP-PT-57-03, of the cold leg injection accumulators was reviewed and found to contain only the latest as-built information for testing the system. The draft technical specifications on the cold leg injection accumulators were reviewed and it was found that only the latest information was used in the proof and review version.

The inspectors performed a system walk-down of the ECCS accumulator flow path. The walk-down inspection verified such characteristics as piping dimensions (length of pipe runs), materials of construction, the pipe diameter and schedule. The identification of the valves installed in the lines was also verified. No problems were noted during this activity.

#### 4. EXIT INTERVIEW

An exit interview was conducted on July 23, 1992, with those personnel denoted in paragraph 1, in which the inspection findings were summarized. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspectors during this inspection.

ATTACHMENT

DRAWINGS FOR BORON INJECTION TO REACTOR COOLANT SYSTEM

M1-0257-0, Revision CP-12  
BRP-CS-X-AB-001, Sheet No. 0, Revision CP-1  
BRP-CS-X-AB-003, Sheet No. 0, Revision CP-2  
BRP-CS-2-AB-003, Sheet No. 1, Revision CP-2  
BRP-CS-2-AB-004B, Sheet No. 1, Revision CP-2  
BRP-CS-2-AB-066, Sheet No. 1, Revision CP-2  
BRP-CS-2-AB-001, Sheet No. 1, Revision CP-2

M2-255-2, Revision CP-3  
BRP-CS-2-AB-067, Sheet No. 1, Revision CP-3  
BRP-CS-2-AB-070, Sheet No. 1, Revision CP-3  
BRP-CS-2-AB-094, Sheet No. 1A, Revision CP-5

M2-0254-0, Revision CP-3  
BRP-CS-2-AB-077, Sheet No. 1, Revision CP-5  
BRP-CS-2-AB-078, Sheet No. 1, Revision CP-2  
BRP-CS-2-AB-084, Sheet No. 1, Revision CP-5  
BRP-CS-2-AB-092, Sheet No. 1, Revision CP-7  
BRP-CS-2-AB-088, Sheet No. 1, Revision CP-6  
BRP-CS-2-AB-093, Sheet No. 1, Revision CP-4  
BRP-CS-2-AB-068, Sheet No. 1, Revision CP-1  
BRP-CS-2-AB-081, Sheet No. 1, Revision CP-3  
BRP-CS-2-AB-079, Sheet No. 1, Revision CP-3

M2-0261-0, Revision CP-6  
BRP-SI-2-AB-002, Sheet No. 1, Revision CP-2  
BRP-SI-2-AB-003, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-055, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-048, Sheet No. 1, Revision CP-2  
BRP-SI-2-YD-003, Sheet No. 1, Revision CP-7

M2-255-0, Revision CP-6  
BRP-CS-2-AB-069, Sheet No. 1, Revision CP-5  
BRP-CS-2-AB-086, Sheet No. 1, Revision CP-7  
BRP-CS-2-RB-038, Sheet No. 1, Revision CP-6  
BRP-CS-2-RB-022, Sheet No. 1, Revision CP-5  
BRP-CS-2-RB-026, Sheet No. 1, Revision CP-4  
BRP-CS-2-RB-027, Sheet No. 1, Revision CP-2

M2-0250-0, Revision CP-2  
BRP-RC-2-RB-024, Sheet No. 1, Revision CP-2

DRAWINGS FOR ECCS ACCUMULATOR INJECTION TO REACTOR COOLANT SYSTEM

M2-0263, Sheet B, Revision CP-1  
BRP-PS-2-RB-020, Sheet 1, Revision CP-1  
BRP-SI-2-RB-036, Sheet 1, Revision CP-5  
BRP-SI-2-RB-045, Sheet 1, Revision CP-3  
BRP-SI-2-RB-062, Sheet 1, Revision CP-3



BRP-SI-2-RB-063, Sheet 1, Revision CP-1  
BRP-SI-2-RB-064, Sheet 1, Revision CP-2  
BRP-SI-2-RB-068, Sheet 1, Revision CP-5  
BRP-SI-2-RB-079, Sheet 1, Revision CP-1  
BRP-SI-2-RB-080, Sheet 1, Revision CP-2  
BRP-SI-2-RB-090, Sheet 1, Revision CP-3  
BRP-SI-2-RB-091, Sheet 1, Revision CP-2  
BRP-SI-2-RB-092, Sheet 1, Revision CP-4  
BRP-SI-2-RB-093, Sheet 1, Revision CP-2  
BRP-SI-2-SB-034, Sheet 1, Revision CP-1  
12-2107-01-A-01-1Q2, Sheet 1, Revision CP-2  
12-2107-01-A-02-1Q2, Sheet 1, Revision CP-3

DRAWINGS FOR ECCS SAFETY INJECTION TO REACTOR COOLANT SYSTEM

M2-0261-0, Revision CP-6  
BRP-SI-2-AB-002, Sheet No. 1, Revision CP-2  
BRP-SI-2-AB-003, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-055, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-048, Sheet No. 1, Revision CP-2  
BRP-SI-2-YD-003, Sheet No. 1, Revision CP-7

M2-0263-B, Revision CP-1  
BRP-SI-2-RB-068, Sheet No. 1, Revision CP-5  
BRP-SI-2-RB-028, Sheet No. 1, Revision CP-2  
BRP-SI-2-RB-075, Sheet No. 1, Revision CP-5

M2-0261-0, Revision CP-6  
BRP-SI-2-SB-011, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-009, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-003, Sheet No. 1, Revision CP-3  
BRP-SI-2-SB-017, Sheet No. 1, Revision CP-3  
BRP-SI-2-SB-016, Sheet No. 1, Revision CP-4  
BRP-SI-2-SB-013, Sheet No. 1, Revision CP-4  
BRP-SI-2-SB-015, Sheet No. 1, Revision CP-1  
BRP-SI-2-SB-036, Sheet No. 1, Revision CP-2  
BRP-SI-2-SB-072, Sheet No. 1, Revision CP-2

M2-0263-0, Revision CP-6  
BRP-SI-2-RB-058, Sheet No. 1, Revision CP-2  
BRP-SI-2-RB-011, Sheet No. 1, Revision CP-2  
BRP-SI-2-RB-010B, Sheet No. 1, Revision CP-3  
BRP-SI-2-RB-010C, Sheet No. 1, Revision CP-5  
BRP-SI-2-RB-027, Sheet No. 1, Revision CP-3  
BRP-SI-2-RB-026, Sheet No. 1, Revision CP-3  
BRP-SI-2-RB-066, Sheet No. 1, Revision CP-1  
BRP-SI-2-RB-045, Sheet No. 1, Revision CP-3

M2-0263-B, Revision CP-1

BRP-SI-2-SB-025, Sheet No. 1, Revision CP-5  
BRP-SI-2-SB-038, Sheet No. 1, Revision CP-3

BRP-SI-2-SB-039, Sheet No. 1, Revision CP-6

M2-0250-0, Revision CP-2  
BRP-RC-2-RB-024, Sheet No. 1, Revision CP-2

OTHER DOCUMENTS AND PROCEDURES

Chapters 5, 6, 9, and 17 of the Final Safety Analysis Report, Revision 85

CPSES Quality Assurance Manual, Revision 5

Unit 2 Procedure Applicability Matrix, Revision 6

TU Electric Comanche Peak Engineering Comanche Peak Steam Electric Station  
Unit 1 and 2 Design Basis Document Chemical and Volume Control System, DBD-ME-  
255, Revision 3

TU Electric Comanche Peak Engineering Comanche Peak Steam Electric Station  
Unit 1 and 2 Design Basis Document Residual Heat Removal System, DBD-ME-260,  
Revision 1

TU Electric Comanche Peak Engineering Comanche Peak Steam Electric Station  
Unit 1 and 2 Design Basis Document Safety Injection System, DBD-ME-261,  
Revision 1 with DCA 92795 and RCNs 884, 1509, 1571, 2235, 2842, and 3233.

CP-SAP-27, "Control of Project Punchlist after Turnover to Startup,"  
Revision 0

2PP-4.03, "FSAR Changes," Revision 0 through Procedure Change Notice 02

2PP-5.01, "Procedure for Processing of Design Change Authorizations (DCAs),"  
Revision 0 through Procedure Change Notice 11

2EP-5.05, "Preparation, Approval and Control of Project Drawings," Revision 2  
through Procedure Change Notice 04

2PP-5.06, "Advance Design Change Program," Revision 1 through Procedure Change  
Notice 04

2-CP-PT-57-03, Safety Injection Accumulators, Revision 2 with Test Procedure  
Changes 1 through 10